DOCUMENT RESUME

ED 204 373 TM 810 361

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TITLE A Comparison of Content and Student Performance for the Alabama Basic Competency Tests and the California Achievement Tests.
PUB DATE 15 Apr 81
NOTE 43p.; Paper presented at the Annual Meeting of the National Council on Measurement in Education (Los Angeles, CA, April 13-17, 1981).

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Comparative Analysis; *Correlation; Elementary Education; Elementary School Mathematics; Grade 3; Grade 6; Language Arts; Minimum Competency Testing; Program Costs; Quantitative Tests; Reading Tests; Standardized Tests; *State Programs; *Testing Programs; Test Validity
IDENTIFIERS Alabama; *Alabama Basic Competency Tests; *California Achievement Tests; Test Content

ABSTRACT

Committees on Content Analysis and Correlation Studies were appointed by the Alabama State Superintendent of Education to provide information regarding the similarities and differences between the California Achievement Tests (CAT), Levels 13-C and 16-C, and the Alabama Basic Competency Tests (BCT), grade 3 and 6. The major purpose of these investigations was to provide comparisons relative to a decision to revise the statewide Testing Program. The BCT Reading/Language subtests were found to cover a wider range of specific skills than the corresponding CAT subtests. For mathematics, the content match between the CAT and the BCT ranged from very similar for grade 3 to only a moderate match for grade 6. A canonical correlation analysis indicated that, at grade 3, the BCT can predict 81% of the CAT variance; at grade 6, 85% of the variance can be predicted. Because of the strong relationship between the BCT and the CAT in grade 3 and 6, the Alabama State Department of Education decided to administer only the BCT in grades 3, 6, and 9. It was agreed that the CAT be administered in grades 1, 2, 4, 5, 7, 8, 10, and 11. (BW)

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A COMPARISON OF CONTENT AND STUDENT PERFORMANCE FOR THE ALABAMA BASIC COMPETENCY TESTS AND THE CALIFORNIA ACHIEVEMENT TESTS

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Presented at the 1981 Annual Meeting
National Council on Measurement in Education

Los Angeles, California

April 15, 1981

TM 810 361

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A COMPARISON OF CONTENT AND STUDENT PERFORMANCE FOR THE ALABAMA BASIC COMPETENCY TESTS AND THE CALIFORNIA ACHIEVEMENT TESTS

Background

Between the springs of 1978 and 1980, there was a noticeable increase in standardized, student achievement testing in Alabama.

In April 1979, a newly elected governor initiated a state testing program which consisted of California Achievement Testing in grades 1-12. In April 1980, the administration of the California Achievement Test (CAT) was reduced to include grades 1-6 and 8. While the CAT had been used statewide in Alabama since 1966, it had never been administered in more than four grades during a school year.

In May 1980, the Alabama State Department of Education administered for the first time the Alabama Basic Competency Tests (BCT) in reading, mathematics, and language to students in grades 3, 6, and 9. These tests were developed in response to a 1977 State Board of Education resolution requiring them. The purposes for the tests were twofold: (1) to identify students who had not mastered those skills identified by educators and lay citizens as minimal requirements for specific grade levels and (2) to influence curricula so that all school systems in the state included the identified minimum competencies in their instructional programs.

In addition to these statewide testing efforts, local testing programs and testing for Title I evaluations were also in full swing.

After administering both the CAT and the BCT for the first time in the spring of 1980, the State Department of Education suspected that the two tests were sufficiently similar to suggest that the administration of both represented a duplication of effort and perhaps a waste of both time and money. In addition, while the increase in student achievement testing followed a financial up-swing, that trend had been reversed. By 1980-81, the testing budget had been reduced 40% from what it was in 1978-79. Consequently, on May 29, 1980, the State Superintendent of Education appointed a committee for the purpose of:

1. generating a common information base from which decisions regarding the state testing program could be made; and
2. making specific recommendations to the state superintendent regarding short- and long-range plans for a coordinated state testing program.

The state superintendent charged the committee to recommend a unified testing program which avoided dupications, which was compatible with all federal laws regarding Title I testing, and which the State could finance with its present cutbacks.

Six subcommittees were appointed and given the responsibility of reporting to the entire committee before a final recommendation was formulated. These subcommittees were:

1. Title I: Requirements and Recommendations
2. Content Analyses: California Achievement Tests (CAT) and Alabama Basic Competency Tests (BCT)
3. Correlation Studies (CAT and BCT)

4. Scoring and Data Analysis: Expansion Feasibility
5. Cost Cutting Measures
6. Coordinated Utilization in the Local Education Agencies

The objectives of each of these subcommittees are found in Appendix A.

The studies reported in this paper grew out of the work of two of the subcommittees: Content Analyses (CAT and BCT) and Correlation Studies (CAT and BCT). The purpose of these investigations was to provide information regarding the similarities and differences between the CAT and the BCT. These data were to serve as a basis for determining the future of the State Testing Program. At the time that the studies were conducted, three program alternatives were being considered by the test committee:

1. Continuation of the current program of administering the CAT in grades 1-6 and 8 and the BCT in grades 3, 6, and 9;
2. Deletion of either the CAT or the BCT in grades 3 and 6, where double testing currently existed; or
3. Use of the CAT as a screening device to determine which students would be required to take the BCT.

While it was understood that factors in addition to the findings of the two studies might also affect the future of the State Testing Program, the content comparisons and statistical comparisons were considered of paramount importance.

Each testing program had its proponents at the local district level and within the staff of the Alabama Department of Education. Those persons

most closely associated with each program felt that the tests were providing useful and valuable information. If analyses demonstrated educationally significant differences in the constructs measured by the testing programs, arguments to continue dual testing in affected grade levels would have to be considered. If, in contrast however, the testing programs were measuring similar content areas and scores were highly correlated, arguments for deleting one or the other would be supported.

In this paper, the authors report the results of the content analyses, the statistical findings, and the decision which was reached. Other factors which contributed to the future of the State of Alabama Testing Program are also discussed.

Method

The comparison of the Alabama Basic Competency Tests and the California Achievement Tests included both content analyses and statistical analyses. The content analyses were completed by two people with broad and specific knowledge of both tests. The statistical analyses were completed by an educational statistician who was familiar with both the CAT and the BCT. The present study compares the third and sixth grade BCT with Levels 13-C and 16-C of the CAT respectively.

Content Comparison

Broad content areas are labeled "category objectives" on the CAT and "competency areas" on the BCT. Test items for each "competency area" of the BCT were compared to specific test items from the CAT. Items from the BCT and the CAT were identified as measuring similar concepts based on

item content rather than on the BCT competency area title or the CAT category objective title. Similar analyses were completed for the CAT and BCT reading, mathematics, and language tests for grades 3 and 6.

Statistical Comparison

The statistical comparison of the BCT and the CAT was based on the administration of both tests to all third and sixth grade public school students in Alabama in the spring of 1980. Since the two tests were administered approximately one month apart, a data file had to be built, matching students' BCT and CAT scores. This was accomplished by using the Alabama State Department of Education facilities. Scores were matched based upon the first five letters of the students' last names and their birth dates. Overall, about 95% of the students' scores were matched successfully. The analyses were based on 46,888 and 42,256 students who had matched total battery scores in grades 3 and 6 respectively.

Several statistical analyses were performed on the data. General descriptive statistics and frequency distributions were computed for each subtest (Reading, Language, Math) at each grade level. The comparisons were completed by computing Pearson product-moment correlation coefficients between the subtests of the BCT and the CAT. A canonical correlation analysis between the BCT and the CAT at each grade level was also performed in order to determine the overall relationship between the two tests. Further, reliabilities in the form of KR 21s were computed for each subtest of the two test batteries. The available data base of matched cases included total and subscores for the two batteries, but did not include individual item responses. A direct comparison of item performances across the two batteries was, therefore, not possible.

Results

The content comparison and the statistical comparisons are presented separately. These sections are followed by a description of the decision reached by the Alabama State Department of Education.

Content Comparison

Four content analyses were performed:

1. Grade 3: CAT Level 13-C Reading and Language Subtests compared with Grade 3 BCT Reading and Language Subtests
2. Grade 3: CAT Level 13-C Mathematics Subtest compared with Grade 3 BCT Mathematics Subtest
3. Grade 6: CAT Level 16-C Reading and Language Subtests compared with Grade 6 BCT Reading and Language Subtests
4. Grade 6: CAT Level 16-C Mathematics Subtest compared with Grade 6 BCT Mathematics Subtest

The sixth grade Reading/Language Arts content analysis is presented in Table 1 to serve as an example. The other content comparisons comprise Appendix B.

Insert Table 1 about here

Reading/Language content comparison. Content overlap on the CAT and BCT Reading/Language subtests were similar for grades 3 and 6. In both grades, the proportion of CAT Reading/Language content included in the BCT Reading/Language subtests ranges from 63% to 73%. From 54% to 59% of the BCT Reading/Language content is included in the CAT in grades 3 and 6. In

general, the BCT Reading/Language subtests cover a wider range of specific skills than the corresponding CAT subtests. For example, Table 1 indicates 22 types of skills which are measured by the sixth grade BCT Reading/Language subtests but not by the CAT.

Mathematics content comparison. For Mathematics, the content match between the CAT and the BCT ranged from very similar for grade 3 to only a moderate match for grade 6. At grade 3, 94% of the BCT math item content is included in the CAT. For grade 6, the math subtests are more dissimilar. Only 29% of the BCT math content is included on the CAT math subtest. This finding is compatible with the stated intent of the third grade BCT, which like the CAT, stresses "school skills." In contrast, the sixth and ninth grade BCT emphasizes "application" of school skills, whereas the CAT continues to stress academic skills in grades 6 and 9.

Statistical Comparison

Table 2 provides a matrix which includes the correlation between each subtest of the BCT and the CAT for grade 3. Table 3 provides similar information for grade 6. The correlation matrices provide information on all possible correlations within and between the BCT subtests and the CAT subtests. The upper left-hand and lower right-hand partitions provide the correlations between the subtests within the BCT and CAT respectively. The upper right-hand partition provides the correlations between each subtest of the BCT and the CAT. Of particlar importance in this study is the diagonal of the upper right-hand partition which provides the correlations between the corresponding subtests of the CAT and BCT; i.e., BCT-Language with CAT-Language.

Insert Tables 2 and 3 about here

Examination of Table 2 indicates that in grade 3, the correlation of each BCT subtest is largest for its CAT subject area counterpart. That is, the BCT math subtest is more highly correlated with the CAT math subtest (.84) than with the CAT reading (.71) or language (.72) subtests. Table 3 indicates that this same pattern holds in grade 6 for the BCT math and language subtests. However, the sixth grade BCT reading subtest correlates equally with the CAT reading (.83) and the CAT language (.83) subtests. The lowest correlations are between BCT language and CAT math (.70) in grade 3 and BCT math and CAT language (.71) in grade 6.

A canonical correlation analysis was conducted between the BCT and the CAT for grades 3 abd 6 to determine their overall dependence. Both analyses produced three significant canonical roots. The largest roots accounted for 81% and 85% of the variance for grades 3 and 6 respectively. Thus, at grade 3, the BCT can predict 81% of the CAT variance and vice versa. At grade 6, 85% of the variance can be predicted. Table 4 provides a summary of these analyses.

Insert Table 4 about here

In order to enhance the interpretation of the correlations between the BCT and the CAT, some general descriptive statistics and reliabilities are presented. Tables 5 and 6 provide a summary of the descriptive statistics and reliabilities for each of the subtests of the BCT and the CAT for grades

3 and 6 respectively. In addition, a frequency histogram of each subtest of the BCT and the CAT at grades 3 and 6 is provided. Figures 1 and 2 present the percentage of students scoring in various categories on both the BCT and CAT sixth grade language subtests. These figures illustrate two general findings of an examination of the histograms: (1) test scores on all subtests (both BCT and CAT) are skewed negatively and (2) with the exception of the sixth grade mathematics tests, the BCT subtests are less difficult than their CAT counterparts. The other 10 histograms comprise Appendix C.

Insert Tables 5 and 6,
Figures 1 and 2 about here

The Decision

Because of the strong relationship between the BCT and the CAT in grades 3 and 6, the Alabama State Department of Education decided to administer only the BCT in grades 3, 6, and 9. It was agreed that the CAT be administered in grades 1, 2, 4, 5, 7, 8, 10, and 11. On September 9, 1980, the Alabama Board of Education endorsed this decision.

Discussion

Factors Related to Making the Decision

Results from the content comparisons of the CAT and BCT in grades 3 and 6 indicate that, although the tests were developed independently and for different purposes, there is considerable overlap in measured skills. Moreover, although the Basic Competency Tests are easier,

student performance on the two batteries is highly correlated. Both findings supported the committee's decision to eliminate either the BCT or the CAT in grades 3 and 6.

It became abundantly clear that determining which test to eliminate involved value judgments and a balancing of resources with information needs. A decision to eliminate either the BCT or the CAT from the State Testing Program would result in some loss of information. For specifying the strength and weaknesses of remedial students, the BCT seemed most appropriate since it discriminates well among lower achieving students. On the other hand, the ceiling effect on the BCT indicated that achievement levels for higher achieving students in grades 3 and 6 would not be accurately assessed if the CAT were eliminated from the testing program. Moreover, because the content range of the BCT is somewhat broader than that of the CAT, if the BCT were discontinued, some competencies judged to be important by Alabama educators and citizens would not be measured.

The appointed test committee recommended that the BCT be administered in grades 3, 6, and 9 and that the CAT should be given to students in grades 2, 4, 5, 8, and 10. Two factors seemed to strongly influence this decision.

1. The testimony of local school superintendents revealed the importance of BCT scores in soliciting parental support. Superintendents expressed that school reports which indicate that students had not mastered <u>minimum</u> skills were powerful in securing parental cooperation. This would seem to indicate that the Basic Competency Testing program enjoyed a certain level of public credibility and support.

2. Local instructional leaders testified that the Basic Competency Program had brought about cooperative work among teachers which had resulted in many positive consequences. Of particular value were meetings of teachers across grade levels which resulted in better coordinated curricula. This suggested that the Basic Competency Program was having the desired effect of influencing and improving local curricula.

It might be noted that the State Superintendent of Education added CAT testing in grades 1, 7, and 11 to the committee's recommendation. This decision was compatible with the maintenance of data bases which were started in April 1979. Moreover, results from CAT testing in grade 11 were thought to be vital to a study of graduation requirements presently being conducted by the Alabama State Board of Education. This information is provided in order to illustrate that numerous factors, in addition to psychometric consideration, are important in the decision making process.

Side Effects

The major purpose of these investigations was to provide comparisons relative to a decision to revise the Statewide Testing Program. However, as is frequently the case, the analyses provided information useful beyond the primary decision.

It seems important to comment on the unique situation related to the sixth grade BCT and CAT math subtests. Of all the content comparisons, the overlap was smallest in the sixth grade BCT and CAT math subtests. Two explanations for the dissimilarity might be:

1. The sixth grade BCT attempts to measure application of mathematical skills to everyday problems to a greater extent than the CAT.

2. The BCT is designed to measure minimum skills, which in grade 6, may mean skills that are more frequently taught at lower grade levels and, therefore, not appropriate for a grade level standardized test such as the 16-C CAT.

Still, the highest correlation (.88) is found between the sixth grade BCT and CAT math subtests. Frequency distributions (see Appendix B) and expert opinions suggest that the sixth grade BCT math test is not "minimum." While the frequency distributions of most Basic Competency subtest suggest that the correlations are attenuated by significant ceiling effects, the sixth grade BCT mathematics subtest is an exception. Its more normal distribution of scores may contribute to its high correlation with the sixth grade CAT mathematics subtests. This suggests that the State-adopted competencies for sixth grade mathematics should be carefully reexamined and possibly revised to reflect more realistic minimal expectations.

Finally, with regard to this comparison, it seems important to note that content analyses, which are influenced by the labeling of skills, may not be adequate for describing similar, underlying abilities needed for answering seemingly different types of questions. For example, the sixth grade CAT math subtest contains items intended to measure mathematical concepts. These appear to be quite distinct from items on the BCT math subtest designed to measure the application of mathematical skills to everyday problems. However, both item types require student ability to read and to compute. In this light, the correlation between scores on the sixth grade BCT and CAT math subtests would seem reasonable.

One of the benefits lost by the deletion of the CAT from the State Testing Program at grades 3 and 6 is reference to national norms. However, the studies reported here provide both the data base and the psychometric preconditions for equating BCT tests to the CAT. The addition of an equating study will further add to the value of the Alabama Basic Comeptency Testing Program.

Table 1

CONTENT COMPARISON: GRADE 6 CAT AND BCT READING/LANGUAGE

	CAT Level 16--C CAT CATEGORY OBJECTIVE	BCT Grade 6 SIMILAR BCT COMPETENCY AREAS
READING VOCABULARY	Same Meaning (20	RI.1 Synonyms (2) RI.5 Recognize daily life words (4) RII.1 Associate words with literal meaning (4) RII.2 Word meaning - context clues (4)
	Opposite Meaning (5)	RI.1 Antonyms (2)
	Multimeaning (5)	RII.12 Multimeaning (4)
READING COMPREHENSION	Recall of Facts (6)	RII.5 Sequence of details (4) RII.6 Details - 5 w's and how (4)
	Inferred Meaning (7)	RII.4 Main idea - implied (4) RII.7 Cause and effect (4) RII.8* Generalizations and inferences (3)
	Character Analysis (8)	RII.8* Generalizations and inferences (1)
	Figurative Language (7)	-----
	Author Attitude/Position (6)	RII.9 Fact/opinion (4)
	Techniques of Persuasion (6)	-----
SPELLING	Consonant Phonemes/Graphemes (5) Vowel Phonemes/Graphemes (8) Morphemic Units (7)	LVIII.1 Spell words frequently used (13)
LANGUAGE MECHANICS	I/Proper Nouns/Adjectives (5)	LX.3 Capitalize all proper nouns (7)
	Beginning Words/Titles (4)	LX.2 Capitalize appropriate words in titles (4)
	End Marks (4)	LIX.1 End marks - ? . ! (13)
	Comma (5)	LIX.3 Comma, direct address (2)
	Quotation marks (7)	-----
LANGUAGE EXPRESSION	Pronouns (5)	LI.3 Pronoun/antecedent agreement (3)
	Verbs (5)	LI.4 Correct verb forms (2) LI.5 Subject/verb agreement (4)
	Adjectives (5)	-----
	Subjects/Verbs (6)	-----
	Modifying/Transitional (6)	-----
	Complete/Incomplete/Run-on (5)	-----
	Sequence/Topic Sentence (6)	LIII.1 Logical organization (4)
REFERENCE SKILLS	Dictionary Page (4)	-----
	Map (5)	RIII.5 Uses maps, charts, graphs, and tables (map only - 4)
	Table (4)	-----
	Library Catalog Cards (6)	-----
	Diagram (6)	-----

Table 1
(continued)

CONTENT COMPARISON: GRADE 6 CAT AND BCT READING/LANGUAGE

ADDITIONAL SKILLS MEASURED BY BCT

Contractions (4)
Recognizing base word (4)
Appropriate prefix and suffix (4)
Main idea - stated (4)
Recognize irrelevant statements in passages (4)
Follow directions to complete task (4)
Source for info - daily life events (4)
Source for info of a topic (4)
Alphabetical organization (4)
Different sections of a book (4)
Correct plurals - nouns (3)
Pronoun substitution (3)
Group similar words (3)
Group similar ideas (3)
Necessary info for written messages (3)
Writing sample - business letter & envelope
Complete forms (3)
Spell months, days, numbers (5)
Comma - words in a series (4)
Possession apostrophe (3)
Capitalization - abbreviations (3)
Writing sample
Proofread (7)

Table 2

Pearson Product-Moment Correlation
Coefficients Between Subtests of BCT and CAT
for Grade 3

	BCT			CAT		
Test	R	M	L	R	M	L
BCT-R	1.00 (44,868)	.77 (43,152)	.85 (42,961)	.84 (44,589)	.77 (44,432)	.82 (44,498)
BCT-M		1.00 (44,896)	.75 (43,143)	.71 (44,614)	.84 (44,459)	.72 (44,524)
BCT-L			1.00 (44,712)	.76 (44,434)	.73 (44,286)	.79 (44,351)
CAT-R				1.00 (46,584)	.78 (46,171)	.84 (46,294)
CAT-M					1.00 (46,419)	.78 (46,195)
CAT-L						1.00 (46,486)

Note: Sample sizes are in parentheses below each correlation coefficient.

Table 3

Pearson Product-Moment Correlation
Coefficients Between Subtests of ABCT and CAT
for Grade 6

	BCT			CAT		
Test	R	M	L	R	M	L
ABCT-R	1.00 (40,828)	.78 (40,530)	.86 (39,149)	.83 (40,204)	.73 (40,183)	.83 (40,172)
ABCT-M		1.00 (40,791)	.74 (39,183)	.77 (40,171)	.88 (40,148)	.80 (40,136)
ABCT-L			1.00 (40,510)	.75 (39,913)	.70 (39,879)	.82 (39,881)
CAT-R				1.00 (41,588)	.75 (41,032)	.84 (41,306)
CAT-M					1.00 (41,572)	.79 (41,160)
CAT-L						1.00 (41,555)

Note: Sample sizes are in parentheses below each correlation coefficient.

Table 4

Summary of Canonical Correlational Analyses
Between BCT and CAT

Grade	Root	Canonical Correlation	Wilk's Lambda	Significance
3	1	.90	.14	<.001
	2	.47	.75	<.001
	3	.19	.96	<.001
6	1	.93	.10	<.001
	2	.49	.71	<.001
	3	.24	.94	<.001

Table 5

General Descriptive Statistics and Reliabilities for Grade 3

Test	N	Mean	SD	Minimum	Maximum	KR 21
BCT-R	44,868	71.4	12.57	10	87	.93
BCT-M	44,896	56.9	8.36	7	68	.81
BCT-L	44,712	58.4	10.11	1	67	.94
CAT-R	46,584	54.2	14.02	1	73	.94
CAT-M	46,419	56.9	16.12	1	85	.94
CAT-L	46,486	34.5	8.33	1	46	.90

Table 6

General Descriptive Statistics and Reliabilities for Grade 6

Test	N	Mean	SD	Minimum	Maximum	KR 21
BCT-R	40,828	70.4	15.79	1	88	.95
BCT-M	40,791	67.9	18.10	1	108	.92
BCT-L	40,510	77.0	14.57	10	91	.95
CAT-R	41,588	44.0	14.40	1	70	.93
CAT-M	41,572	49.9	15.77	1	85	.93
CAT-L	41,555	43.9	11.02	1	63	.90

FIGURE 1: GRADE SIX
ALABAMA BASIC COMPETENCY TEST – LANGUAGE

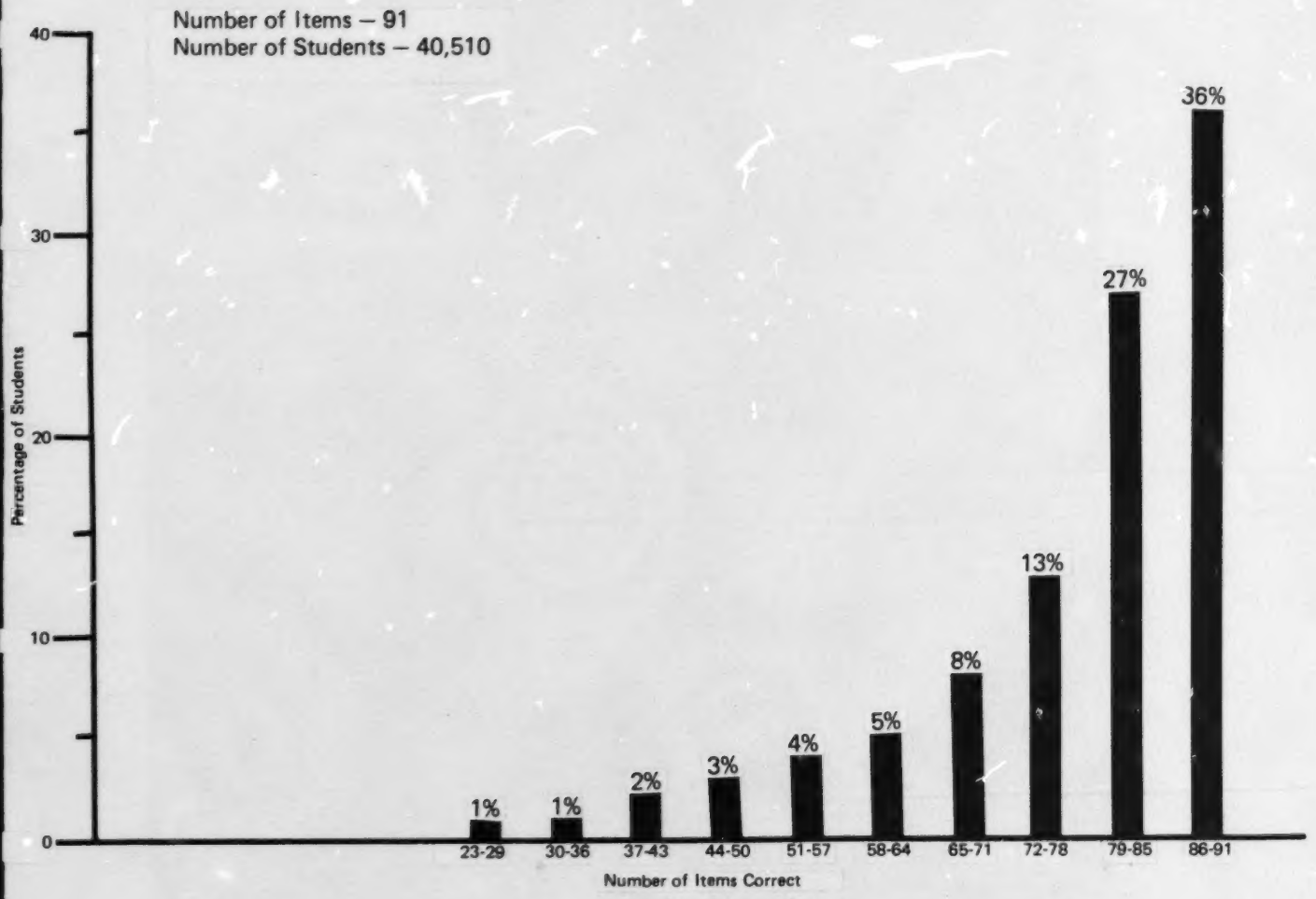
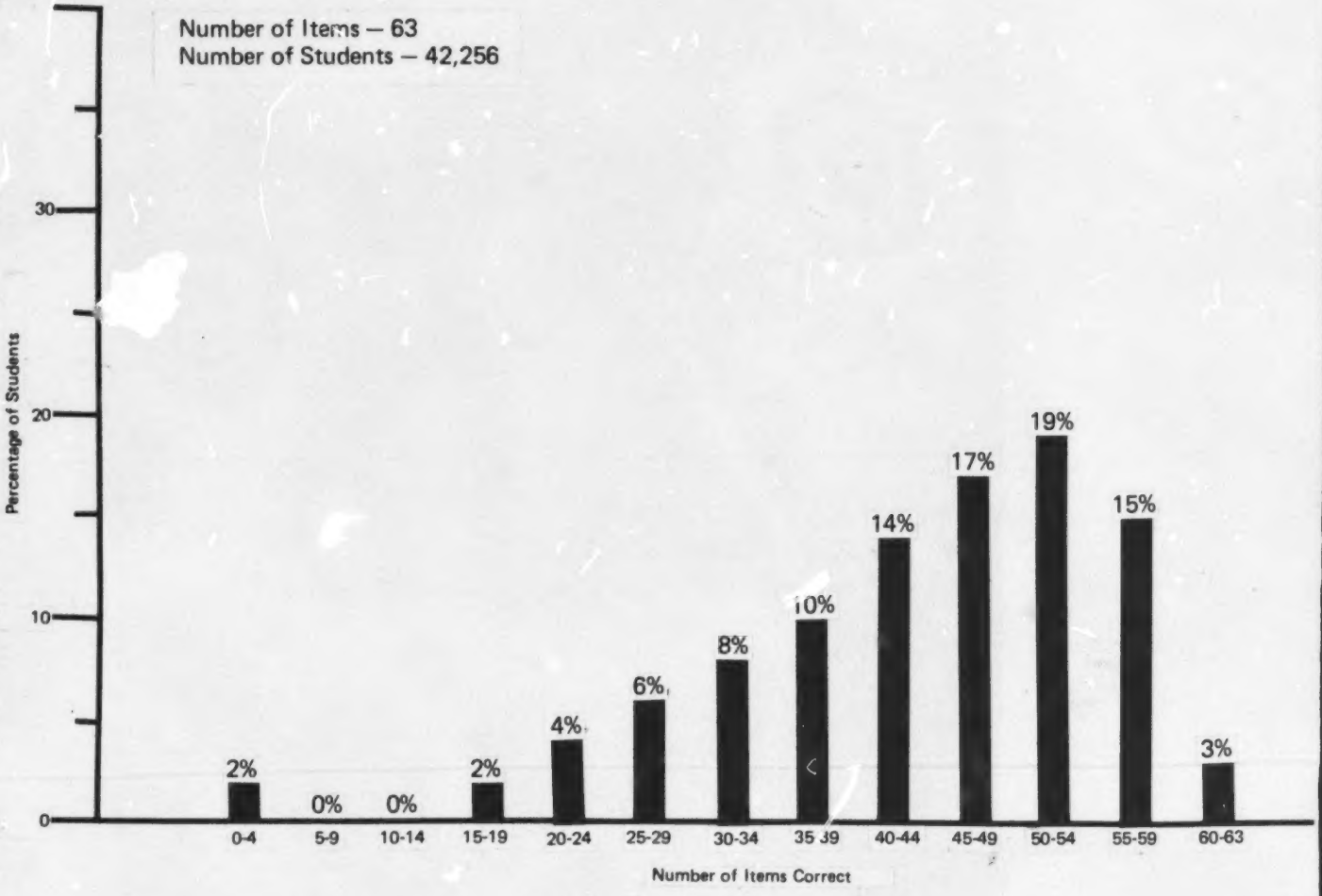


FIGURE 2: GRADE SIX
CALIFORNIA ACHIEVEMENT TEST – LANGUAGE



APPENDIX A

Subcommittee Objectives

Title I: Requirements and Recommendations

1. To provide a written statement of Title I requirements for evaluation;
2. To indicate the source for each of the requirements;
3. To list the recommendations for Title I evaluation and to indicate who makes these recommendations and why;
4. To identify some options which are open to LEAs for reducing the number of tests which Title I students take each year;
5. To suggest ways in which the data analysis section of the SDE might increase human and fiscal efficiency by providing scoring and reporting services to Title I programs; and
6. To clarify the regulations related to purchase of test instruments, answer sheets, scoring services, and data analyses for Title I programs.

Content Analysis

1. To state the purposes for administering the CAT in Alabama;
2. To state the purposes for administering the BCT in Alabama; and
3. To determine the similarities and differences in the content of the CAT and the BCT for each of the three subjects in grades 3, 6, and 9:
   a. Which skills are measured?
   b. Readability of passages?
   c. Data provided in readouts?

Scoring and Data Analysis: Expansion and Feasibility

1. To report on present costs for scoring BCT and CAT;
2. To estimate cost of scoring locally sponsored CAT tests ($X for 1,000 students who take 17-C);

3. To determine what SDE would need in order to offer scoring services to LEAs who administer CAT in grades other than those paid for by the State;
4. To determine feasibility of providing additional data to Title I programs which use the State CAT for evaluation
   a. Converting scores to NCEs
   b. Listing Title I scores in rank order; and
5. To review which data are provided to LEAs on both the CAT and the BCT and to judge whether additions and/or deletions need to be made.

Cost Cutting Measures

1. To prioritize the testing which the SDE should sponsor;
2. To list specific steps which the SDE could take to reduce the costs of the CAT and BCT testing programs;
3. To determine the exact amount of money to be spent on student testing in the 1980-81 school year and to make recommendations for how that money might best be budgeted;
4. To report on the possibility of LEAs paying the SDE for scoring services for CAT tests which are sponsored locally; and
5. To report on the possibility of Title I paying the SDE for State CAT tests which serve as instruments in evaluation of their programs.

Correlations

1. To devise a plan for determining the relation between scores on the California Achievement Tests and the Basic Competency Tests;
2. To determine which data analysis procedures are needed in order to serve as a basis for revisions in the Basic Competency Tests;
3. To present a budget for carrying out #1 and #2;
4. If budget is approved by the State Superintendent, to carry out the needed analysis; and

5. To discuss findings of data analysis with Testing Work Group, stressing the implications for a coordinated, effective, and efficient state testing program.

Coordinated Uses in the Field

1. To recommend dates for administering Title I pre-and post-tests, California Achievement Tests, and Basic Competency Tests which would promote a coordinated state testing program.
2. To recommend procedures for using results from all testing programs to enhance a unified instructional program in local school systems; and
3. To state the implications for instructional programs in LEAs from the results of
   a. the content analysis of both tests and
   b. the correlations between scores from both tests.

APPENDIX B

CONTENT COMPARISON: GRADE 3 CAT AND BCT READING/LANGUAGE

	CAT Level 13-C	# Items CAT/BCT	BCT Grade 3
	CAT CATEGORY OBJECTIVE		SIMILAR BCT COMPETENCY AREAS
PHONICS	Consonant Clusters and Digraphs (5)		RI.7 Consonant blends and clusters (4)
	Short, Long Vowels/Vowel Combos (5)		RI.6 Long and short vowels (4)
	Dipthongs (5)		-----
	Variant Vowels/Vowel Combos (5)		-----
STRUC-TURE	Compound Words/Syllables/ Contractions (6)		RI.3 Compound words (4) RI.4 Contractions (4)
	Base Words/Affixes (5)		RI.8 Root or base words (4)
READING VOCABULARY	Same Meaning (5)		RI.2 Synonyms (2) RII.8 Word meaning - context (4)
	Opposite Meaning (5)		RI.2 Antonyms (2)
	Multimeaning (5)		RIII.2 Definition from context (4)
READING COMPREHENSION	Recall of Facts (5)		LIV.1 List info of a given message (6) RII.2 Sequence of events (2) RII.5 5 w's and how (7)
	Inferred Meaning (7)		RII.1 Main idea (4) RII.3* Inferences, conclusions, generalizations (2) RII.4 Cause/effect (3)
	Character Analysis (5)		RII.3* Inferences, etc. (2)
	Figurative Language (5)		-----
	Real/Unreal Elements (5)		RII.9 Fact/fantasy
SPELLING	Consonant Phonemes/Graphemes (4) Vowel Phonemes/Graphemes (6) Morphemic Units (10)		LIX.1 Spell words frequently used (10)**
LANGUAGE MECHANICS	I/Proper Nouns/Capitalization		LXI.1 Capitalize proper nouns (10) LXI.3 Capitalize I (1)
	Capitalization - Beginning Words and Titles		LXI.2 Beginning words (1) LXI.6 Common titles (1)
	End Marks (4)		LX.1 Use . and ? to punctuate sentences (4)
	Commas (6)		LX.4 Use , to sepearate day of the month, year (2)
LANGUAGE EXPRESSION	Pronouns (5)		-----
	Verbs (5)		LI.4 Past and present verb tense (3)
	Adjectives (5)		-----
	Subjects/Verbs (6)		-----
	Modifying Words (5)		-----

CONTENT COMPARISON: GRADE 3 CAT AND BCT READING/LANGUAGE (continued)

ADDITIONAL SKILLS MEASURED BY BCT

LI.1 Singular/plural nouns (4)

LI.2 Plural forms of nouns (3) (recognize correct spelling)

LI.3 Pronoun substitution (3)

LI.5 Recognize declarative and interrogative statements (4)

LII.1 Group similar words (5)

LV.1, 2 Thank you letters and envelopes (4)

LVII.1 Writing sample - words, numerals, short sentences

LVIII.1 Label pictures (10)**(same 10)

LX.2 Use period after abbreviations (2)

LX.3 Commas - city, state (2)

LX.5 Commas - greeting, closing (4)

LXI.4 Capitalize - greeting, closing (2)

LXII.1 Proofread (4) (Capitalize: common title, proper noun; end mark - ?; misspelled word)

RI.1 Identify Dolch words (4)

RI.5 Initial and final consonant (5)

RII.6 Locate specific information (4)

RII.7 Follow directions (4)

RIII.1 Alphabetize (4)

RIII.3 Appropriate reference sources (3)

RIII.4 Table of contents (4)

RIII.5 Map symbols (4)

Note: Language portion done from Form A; Reading portion from actual test.

CONTENT COMPARISON: GRADE 3 CAT AND BCT MATHEMATICS

	CAT Level 13-C	# Items CAT/BCT	BCT Grade 3
	CAT CATEGORY OBJECTIVES		SIMILAR BCT COMPETENCY AREAS
COMPUTATION	Addition (10) Subtraction (10) Multiplication (10) Division (10)		I.3 Add subtract, multiply, and divide whole numbers: add (4); subtract (4); multiply (4); divide (4)
CONCEPTS & APPLICATIONS	Numeration (5)		-----
	Number Theory (5)	1/	I.1 Numerals/word names (4)
	Number Sentences/Properties (6)	1/	I.2 Arrange numbers in order (4)
	Common Scales (5)	2/	II.1 Use calendar and clocks (4)
		1/	II.2 Thermometers (4)
	Measurement (7)	1/	II.4 Measure - ruler (4)
	Graphs (8)	8/	III.1 Read and interpret graphs (4)
	Story Problems (4)	1/	VI.14 Select mathematical operation (4)

ADDITIONAL SKILLS MEASURED BY BCT

II.3 Weighing devices (4)
II.5 Measure capacities (4)
IV.3 Recognize calculation errors (4)
IV.4 Estimate linear distances (4)
VI.1 Identify coins and currency (4)
VI.3 Comparative shopping (4)
VI.11 Numbers in everyday life (4)

CONTENT COMPARISON: GRADE 6 CAT AND BCT MATHEMATICS

CAT Level 16-C	# Items CAT/BCT	BCT Grade 6 SIMILAR BCT COMPETENCY AREAS
CAT CATEGORY OBJECTIVES		
Addition (10)	2/	I.3 Whole numbers (2)
	5/	I.4 Decimals (2)
	3/	I.5 Fractions (2)
Subtraction (10)	1/	I.3 Whole numbers (2)
	3/	I.4 Decimals (2)
	6/	I.5 Fractions (2)
Multiplication (10)	2/	I.3 Whole numbers (2)
	3/	I.4 Decimals (2)
	5/	I.5 Fractions (2)
Division (10)	5/	I.3 Whole numbers (2)
	2/	I.4 Decimals (2)
Numeration (6)		-----
Number Theory (6)		-----
Number Sentences (6)		-----
Number Properties (4)		-----
Geometry/Measurement (6)	1/	V.3 Identify parellel and perpendicular lines (2)
Graphs (8)	(bar) 2/	III.1 Read and interpret bar, circle,
	(line) 2/	line graph (3: line graphs)
Story Problems (9)	3/	VI.14 Determine needed info (3)
	1/	VI.13 Compute wages w/o deductions (3)

CONTENT COMPARISON: GRADE 6 CAT AND BCT MATHEMATICS
(continued)

ADDITIONAL SKILLS MEASURED BY BCT

I.1 Read and write numerals and word names for numerals (4)
I.2 Order fractions and decimals (4)
I.8 Change simple fractions and decimals (5)
I.9 Find averages of whole numbers (3)
II.2 Know body temperature and boiling and freezing point of water (5)
II.1 Use calendars and clocks (4)
II.3 Read scales to determine weights (3)
II.4 Read rulers to determine lengths (4)
II.5 Measure capacity (4)
II.6 Find perimeters of polygons (3)
II.7 Find rectangular areas (2)
III.3 Determine distances and locate places on maps (3)
III.4 Determine approximate size using sale drawings (3)
IV.1 Round numbers and make approximations by rounding (4)
IV.2 Select reasonable answers to compution problems (3)
IV.3 Find errors in calculation and decimals placement; divide zero in quotient (3)
IV.4, 5, 6 Estimate lengths (1); capacities (1); weights (1); cost (1)
VI.1 Recognize simple plane geometric figures (4)
V.2 Recognize common solid geometric figures (3)
VI.2 Determine change up to $20 (3)
VI.3 Solve life problems, comparing costs in advertisements (3)
VI.10 Read guages, meters, and dials (3)
VI.11 Identify telephone, area code, zip code, address numbers (3)

I.6, I.7, I.10, III.2 not on test

FIGURE 3: GRADE THREE
ALABAMA BASIC COMPETENCY TEST – READING

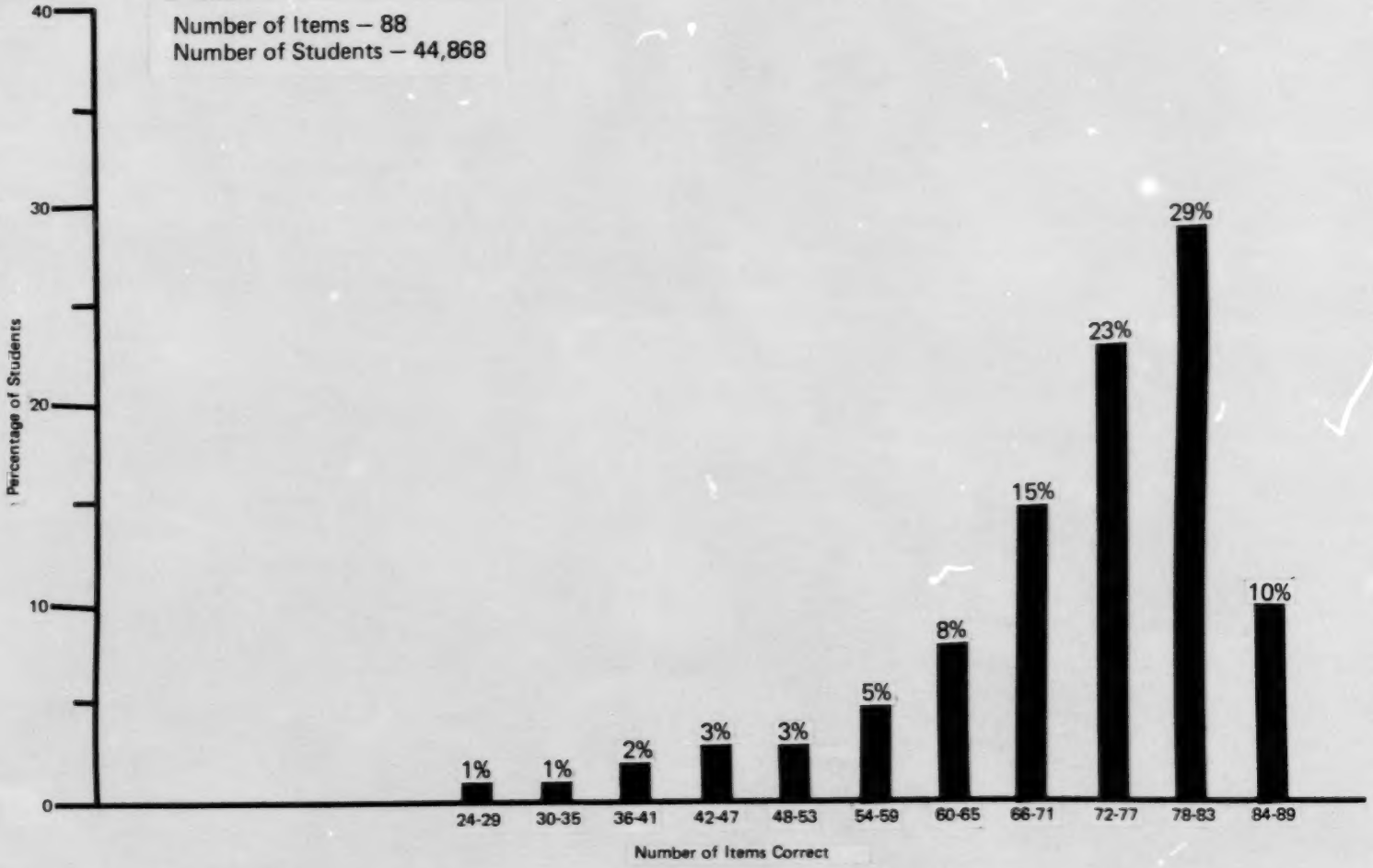


FIGURE 4: GRADE THREE
ALABAMA BASIC COMPETENCY TEST – MATHEMATICS

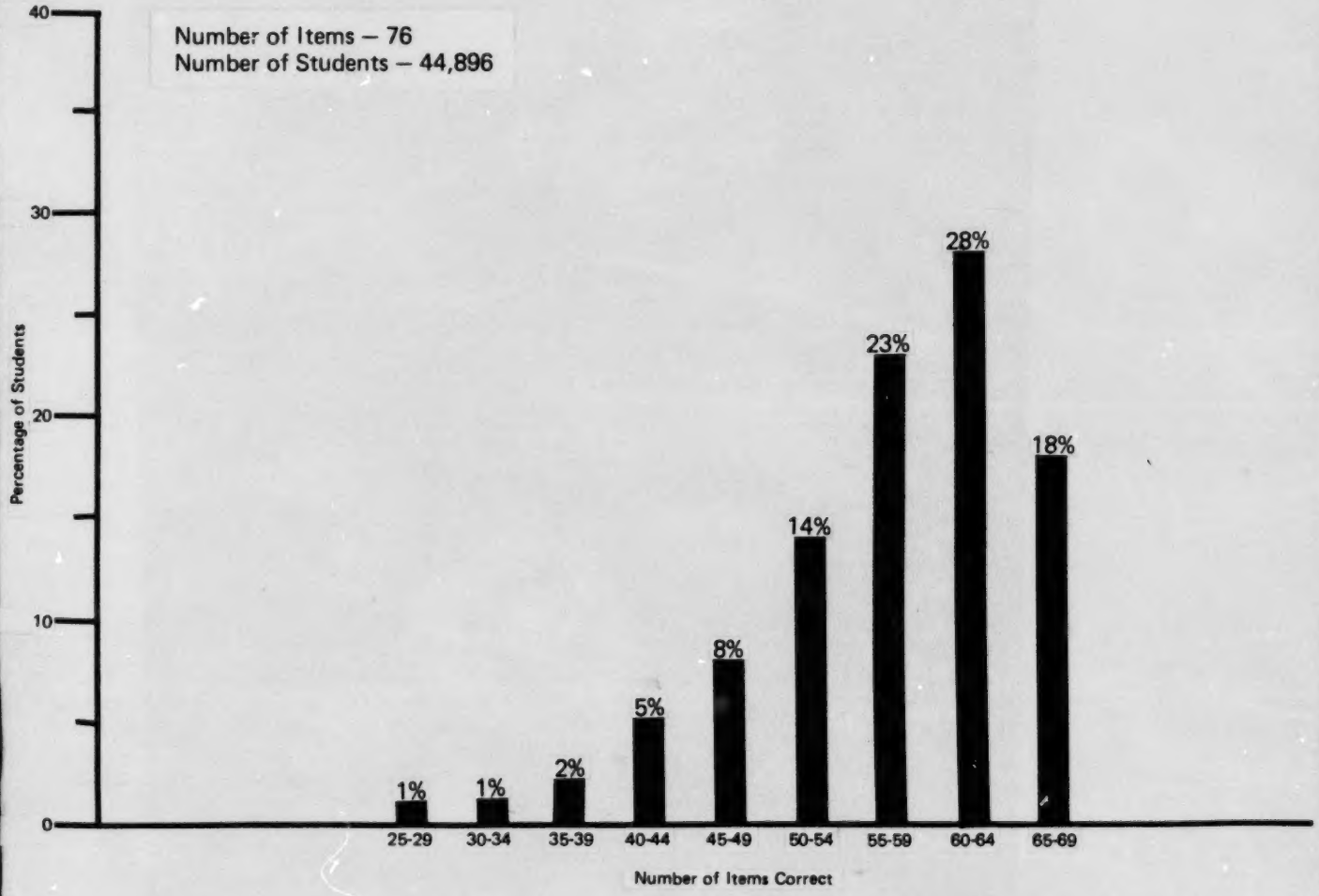


FIGURE 5: GRADE THREE
ALABAMA BASIC COMPETENCY TEST – LANGUAGE

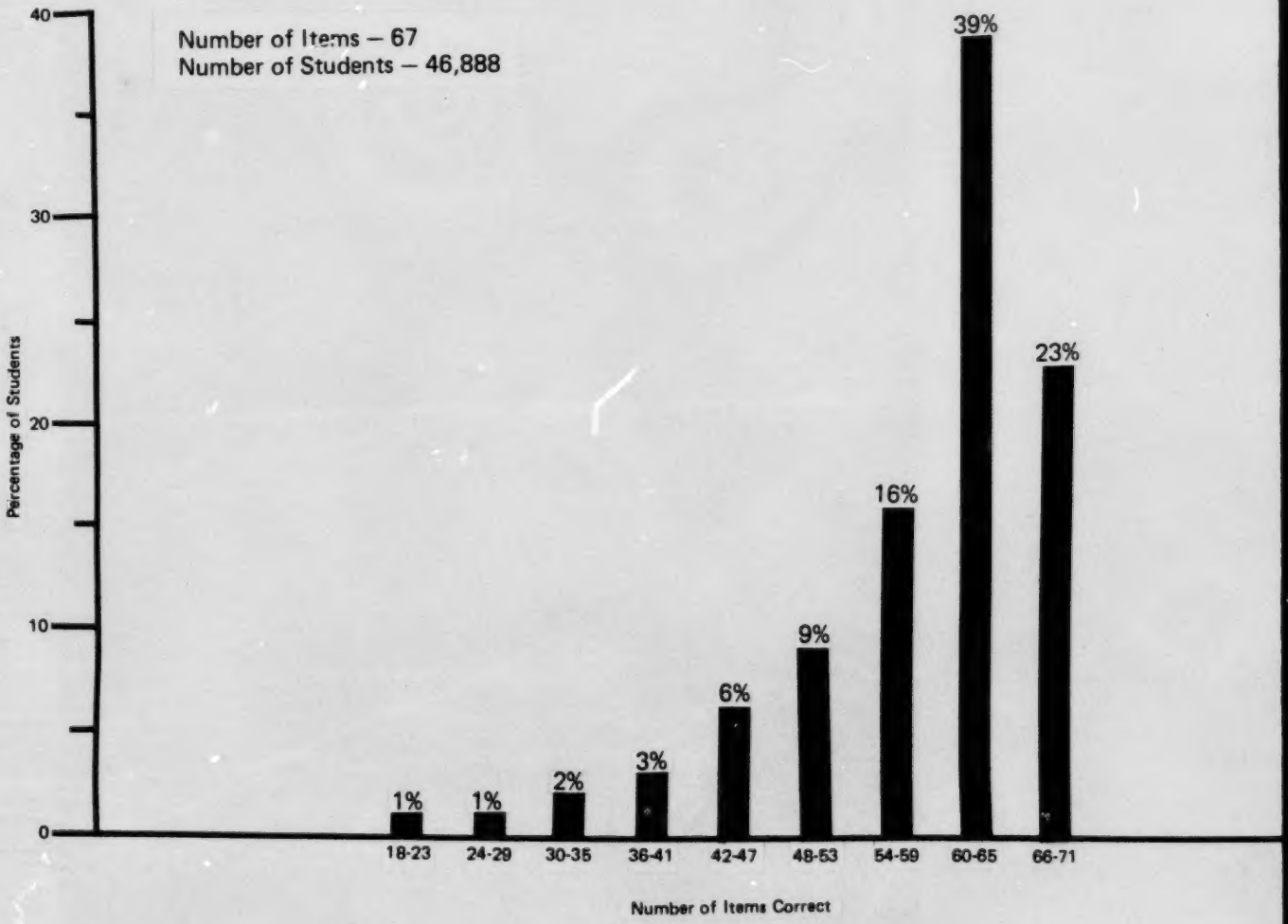


FIGURE 6: GRADE THREE
CALIFORNIA ACHIEVEMENT TEST – READING

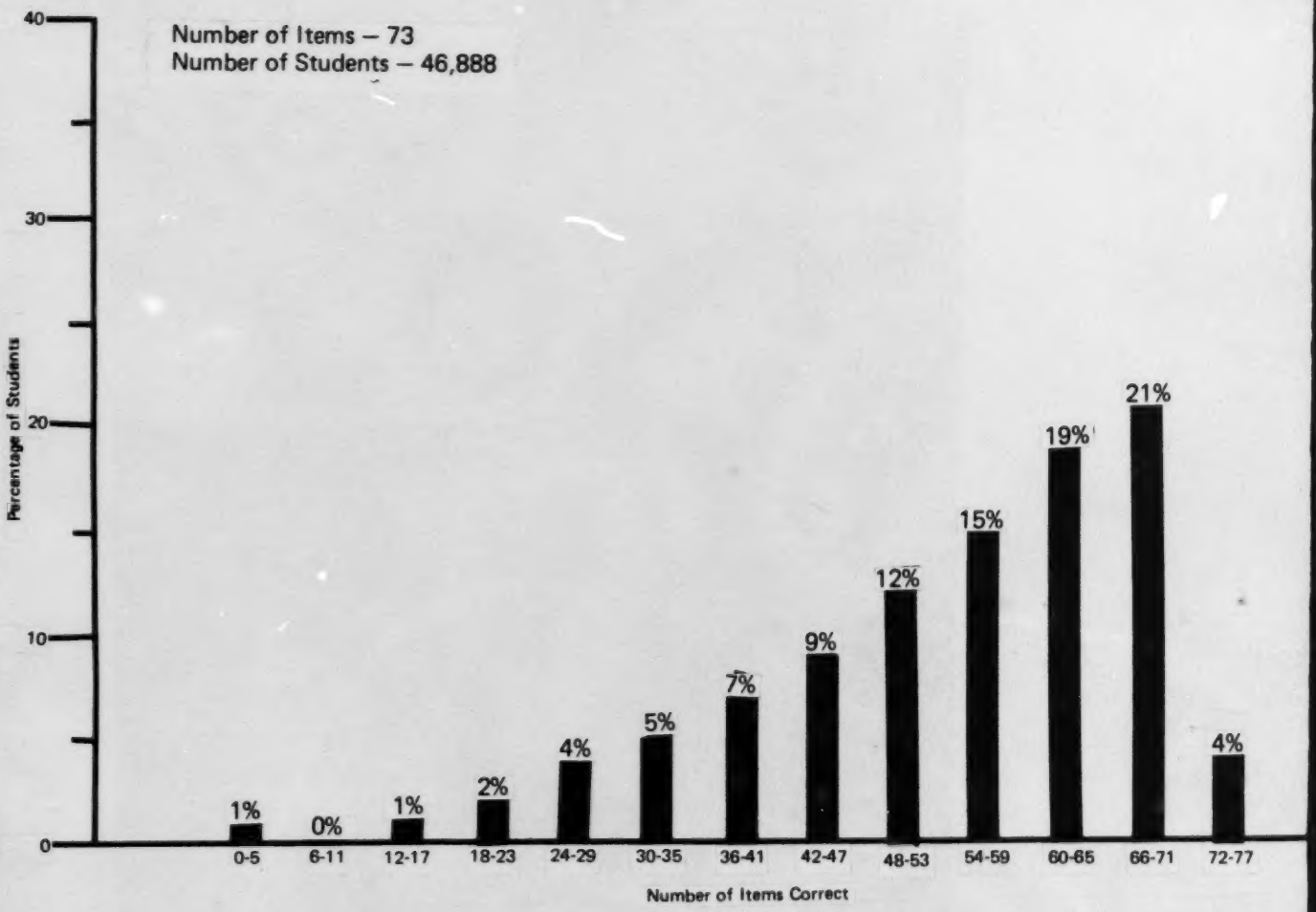


FIGURE 7: GRADE THREE
CALIFORNIA ACHIEVEMENT TEST – MATHEMATICS

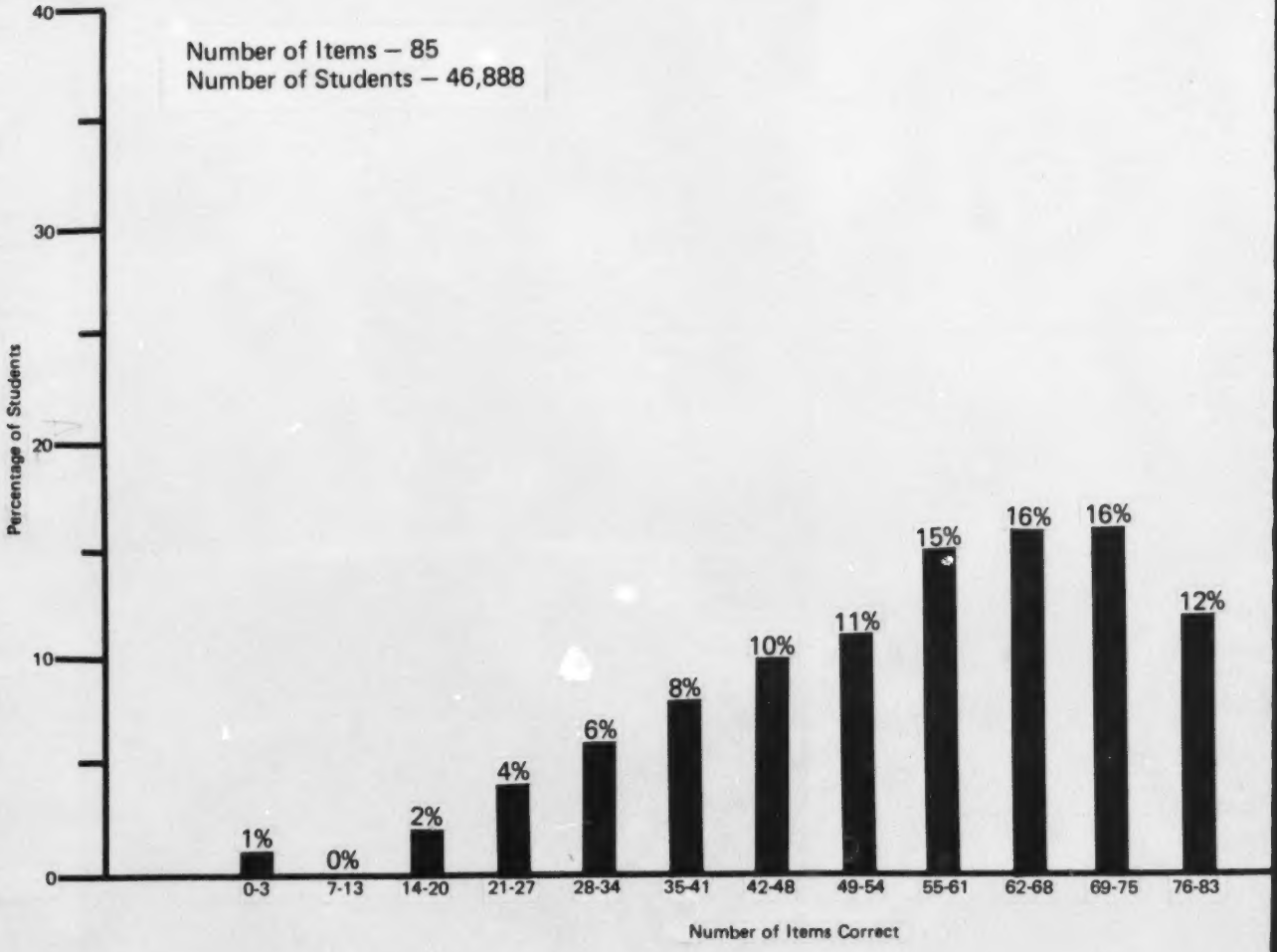


FIGURE 8: GRADE THREE
CALIFORNIA ACHIEVEMENT TEST – LANGUAGE

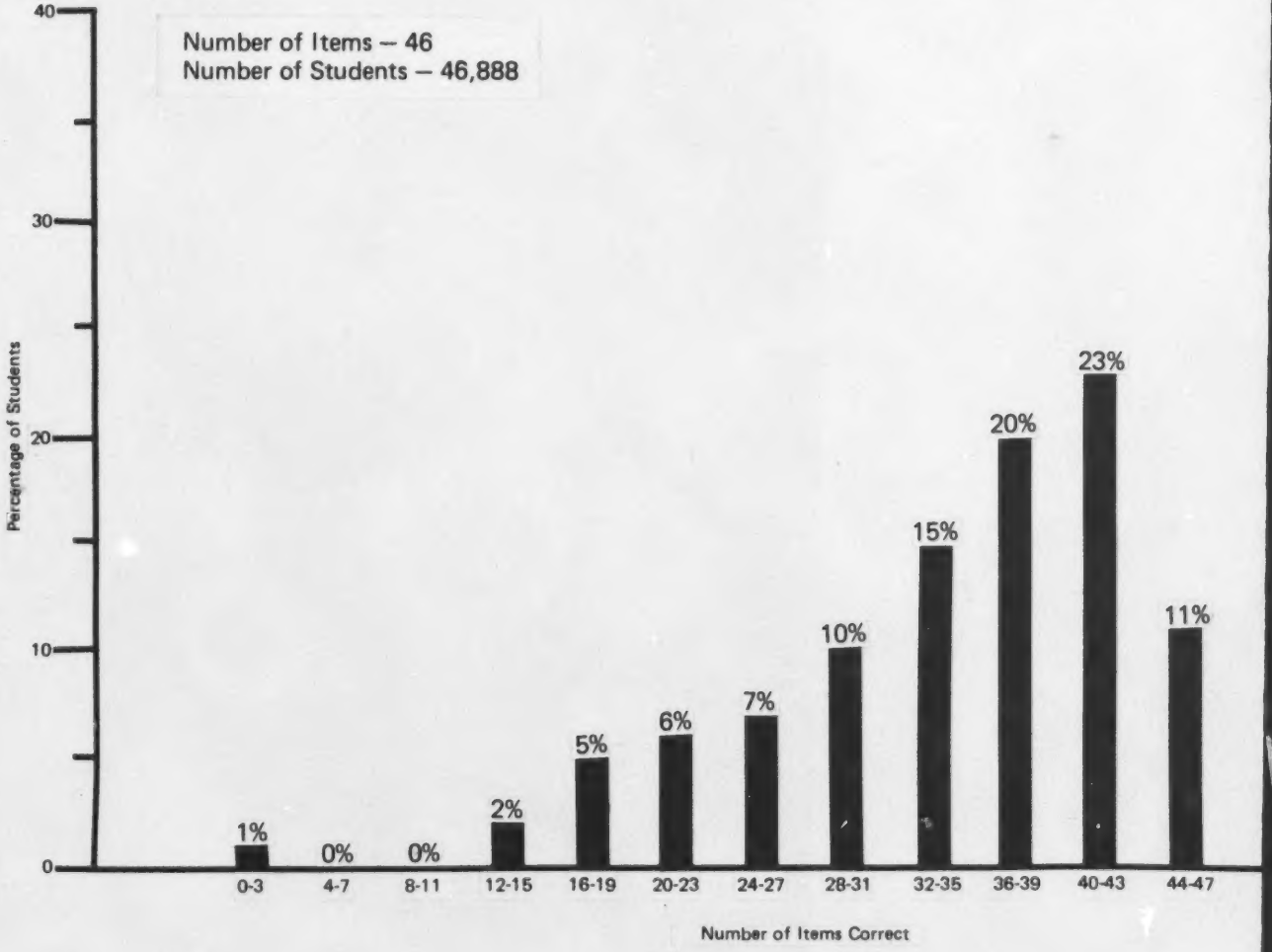


FIGURE 9: GRADE SIX
ALABAMA BASIC COMPETENCY TEST – READING

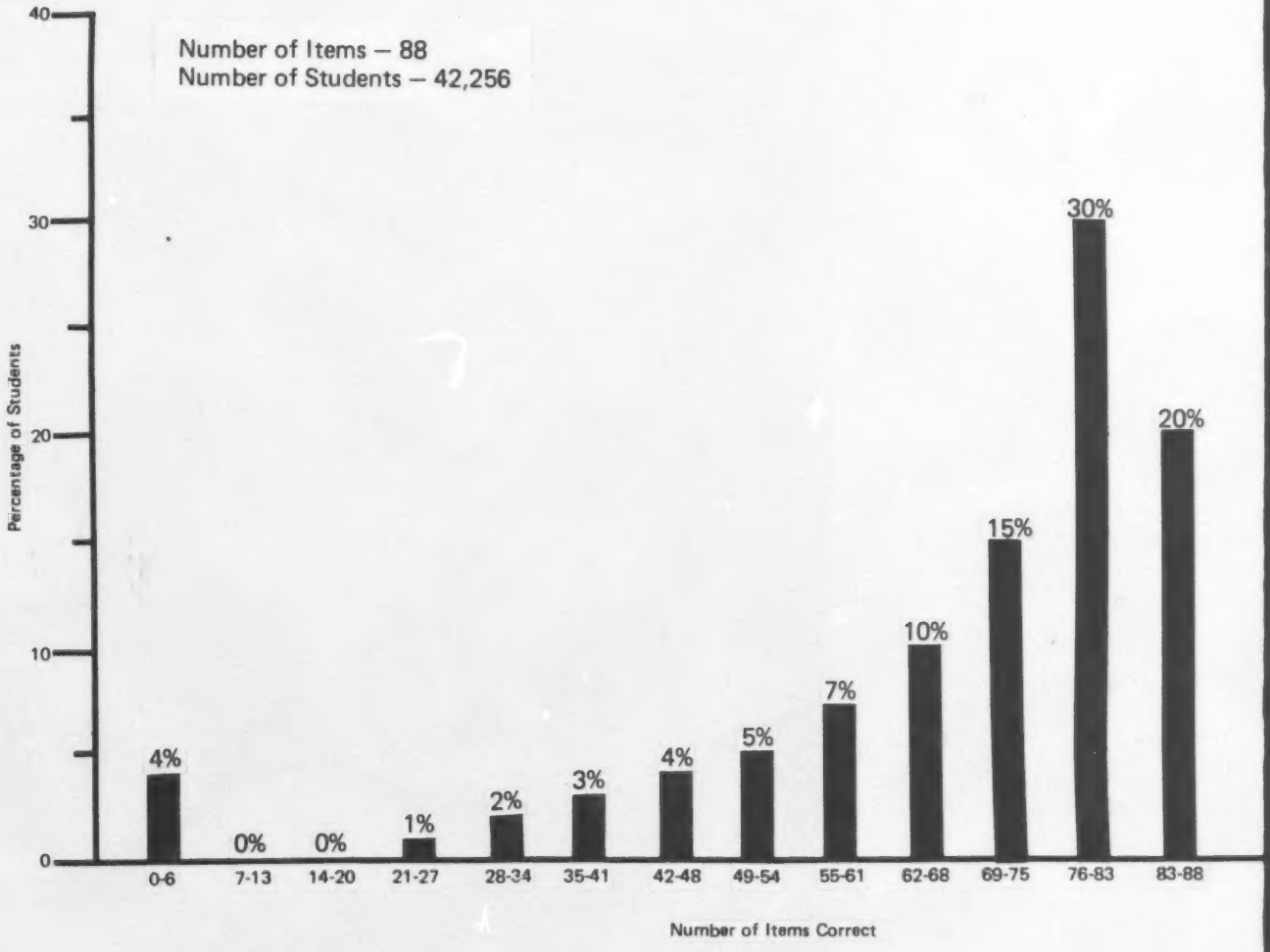


FIGURE 10: GRADE SIX
ALABAMA BASIC COMPETENCY TEST – MATHEMATICS

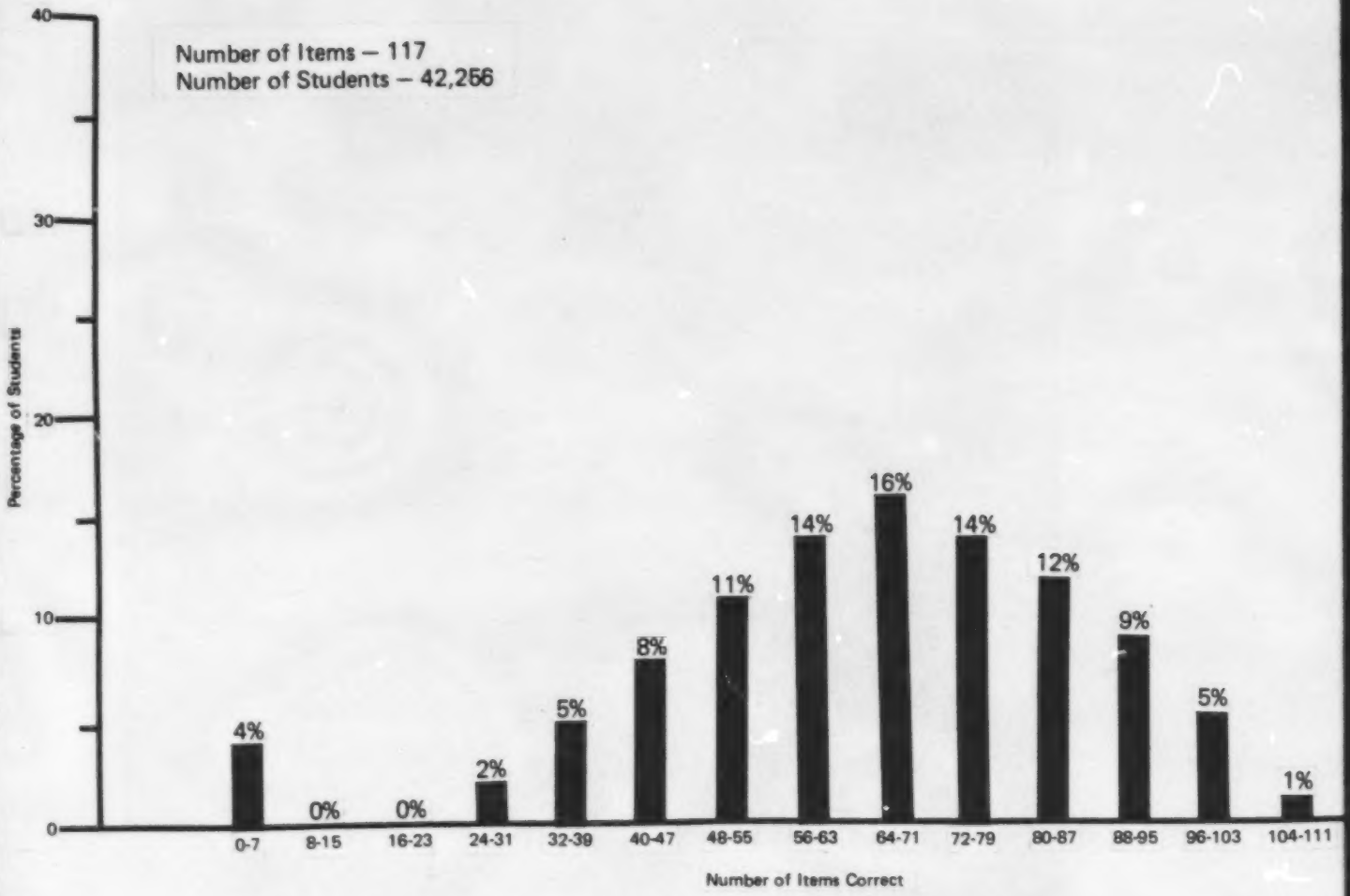


FIGURE 11: GRADE SIX
CALIFORNIA ACHIEVEMENT TEST – READING

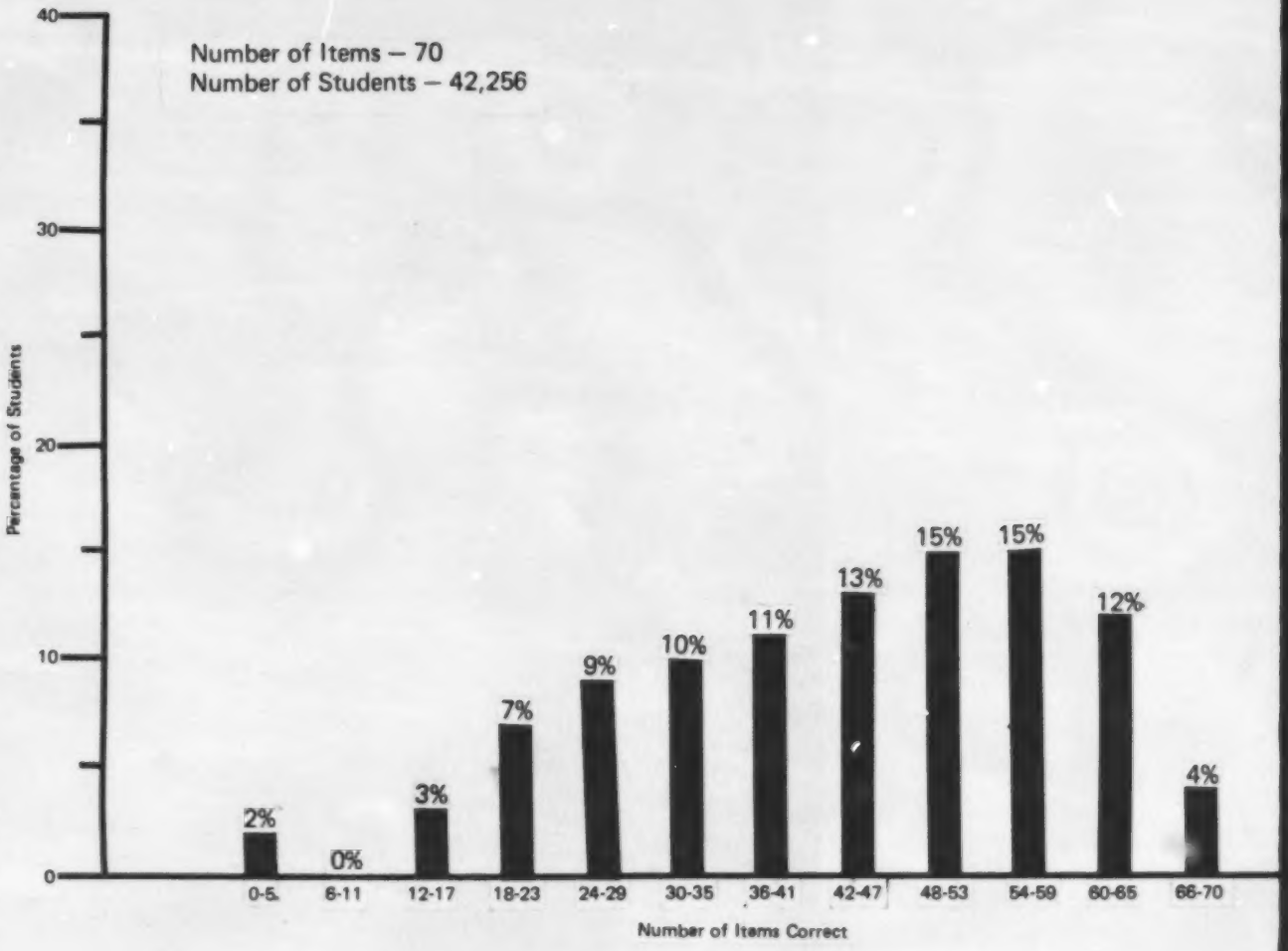


FIGURE 12: GRADE SIX
CALIFORNIA ACHIEVEMENT TEST – MATHEMATICS